

Two New Species of *Melanagromyza* Hendel  
(Diptera, Agromyzidae) that Bore in Tomato Stalks in Colombia  
and Ecuador

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ABSTRACT

*Melanagromyza caucensis* and *M. tomaterae* (Diptera: Agromyzidae), the former from Colombia and the latter from Colombia and Ecuador, are described as new to science. Both species were reared from larvae boring in the stems of tomato plants.

The species here described were received, one of them several times, from workers in South America who reared them from the stalks of tomato (*Lycopersicon esculentum* Mill., family Solanaceae). Owing to their habit of boring in the stems, the early stages of even a heavy infestation will produce little or no visible indication. No published information is available on the effect of agromyzid stem miners in such crops as tomato, but it is likely that weakened or broken stalks and considerable reduction in yield of fruit could result.

The species of *Melanagromyza* are small black flies very similar to each other in general appearance. Many species may be distinguished only by postabdominal characters requiring dissection. As noted below, the species here described are very similar to certain described species, *M. tomaterae* being very similar to *M. colombiensis* Spencer, the host of which is not known, and *M. caucensis* being apparently most closely related to *M. chenopodii* Spencer (host, *Chenopodium ambrosioides* Linnaeus) and an undescribed species noted by Spencer.

Both new species run in the key to neotropical *Melanagromyza* by Spencer (1963: 306) to the first part ("squamal fringe pale, whitish"). *M. tomaterae* will run to couplet 3 because of its partly white halter, but *M. caucensis*, with wholly black halter, 2 pairs of dorsocentral bristles, orbits and ocellar

triangle only moderately shining, and foretibia lacking lateral bristle, will go to couplet 12; among the species which follow thereafter, only the male postabdomen will give reliable differentiation.

*Melanagromyza caucensis*, new species  
(Fig. 1)

Very similar to *M. chenopodii* Spencer (1963: 308) and an unnamed species figured by Spencer in the same place, possibly even identical with the latter. It differs from *M. chenopodii* in narrower cheek, lower lunule, and in postabdominal details.

*Male*.—Length of wing 2.6-2.7 mm. Head with frons distinctly raised above eye margin, matt black, 0.35 of head-width; orbits and ocellar triangle only weakly shining; orbital bristles strong; orbital setulae largely reclinate, except for a few in front; eyes bare; lunule parabolic, half as high as wide; cheek 0.18 of eye-height; arista short-pubescent. Mesoscutum and abdomen shining blackish, a little bronzy greenish. Postabdomen as in Fig. 1; anterior process of epandrium short, acute, with a few short apical setae; basiphallus a complete ring; sperm pump (Fig. 1A) with short, thick subcapitular process.

Holotype (male) and 1 male paratype, Pradera, Valle, Colombia, 28 September 1968, ex tomato stem (Ingeborg Zenner J.), no. 72252 in U.S. National Museum.

The name is an adjective pertaining to the Cauca Valley of Colombia.

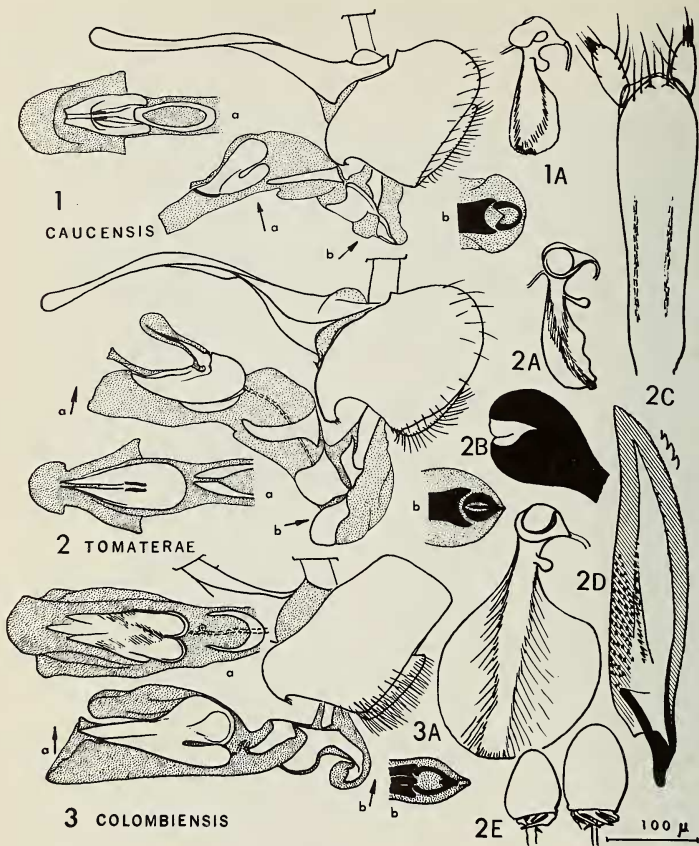


Fig. 1. *Melanagromyza caucensis*, n. sp., male postabdomen; 1A, sperm pump. Fig. 2. *M. tomaterae*, n. sp., male postabdomen; 2A, sperm pump; 2C, apical segment of ovipositor; 2D, egg guide; 2E, spermathecae. The 100-micron scale refers only to figs. 2C, 2D, and 2E. Fig. 3. *M. colombiensis* Spencer, postabdomen of male paratype. All figures show a lateral view of the postabdomen together with aedeagus (a) and fulcral region (b) viewed in direction of arrows.

*Melanagromyza tomaterae*, new species  
(Fig. 2)

Similar to *M. colombiensis* Spencer, differing in narrower front, 3 lower orbital

bristles, conspicuously pubescent arista, and in postabdominal details.

*Male*.—Length of wing 2.7 mm. Head with front matt black, very slightly raised above eye margin, 0.37 of head-width; orbits and ocellar triangle

clearly distinguishable, but only weakly shining; lower orbital bristles 3, distinctly smaller than upper orbitals; orbital setulae numerous and long, usually all reclinate; eye rather densely pilose on upper surface; lunule parabolic, half as high as wide; cheek 0.12-0.20 of eye-height; antenna with 3rd segment roundish, moderate in size, arista long-pubescent. Mesoscutum and abdomen shining blackish, with rather strong bluish to greenish metallic glint. Wing with costa extending to 4th vein, last section of 5th vein more than half as long as penultimate section. Halter (fig. 2B) black, with broad white margin along apical sulcus (most apparent in fresh specimens or those preserved in liquid). Postabdomen as in Fig. 2; anterior process of epandrium curved, projecting more than 1/3 of length of epandrium and bearing a few short setae apically; arms of basiphallus rather broad apically and narrowly disjunct; sperm pump (Fig. 2A) with narrow blade sinuate on side with long, slender subcapitular process.

*Female*.—Length of wing 2.8-3.2 mm. Postabdomen with ovipositor sheath only little tapering, 0.33 mm long; ovipositor with apical segment as Fig. 2C, egg guide as in Fig. 2D, and spermathecae as in Fig. 2E.

Holotype (male), allotype, and 10 male and 16 female paratypes from the following

localities: Cauca Valley, Colombia, 1968, ex stem mines in tomato (Mario Calderon C.), including holotype and allotype; Medellin, Antioquia, Colombia, December 1971, ex tomato (Raul Velez-Angel); Pradera, Valle, Colombia, 28 September 1968, ex tomato stem (Ingeborg Zenner J.); Portoviejo, Manabi, Ecuador, 6 October 1970 (P. Alcivar A.); all deposited in U.S. National Museum, type no. 72253.

The name is from Spanish *tomatera* 'tomato plant,' treated as Latin and placed in the genitive case.

For purposes of comparison the male postabdomen of a paratype of *M. colombiensis* (topotypical, from Bogota, Colombia) in the U.S. National Museum is shown in Fig. 3.

#### Reference Cited

- Spencer, K.A. 1963. A synopsis of the neotropical Agromyzidae (Diptera). Trans. Entomol. Soc. London 115: 291-389.